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SOURCE Radio, No 4, 1950.

LETTERS TO THE EDITOR ON USSR RADIO RECEIVERS

APPEARANCE OF RADIO RECEIVERS

E. Dorfman, architect
Moscow

Radio published an appraisal of the appearance of radios made by our factories approximately one year ago. Since then, most of them have been considerably improved.

The Riga radio plants are ahead in this respect. The new cabinet for the six-tube receiver, put out by the VEF Plant, has a symmetrical arrangement of the openings for the loudspeaker and the dial is well-designed. Consequently, the one unsuccessful innovation is all the more striking -- the red frame around the glass dial spoils its shape and introduces a note of cheap decoration.

The appearance of the new VEF RZ-1 is very good.

The appearance of the "Radiotekhnika". Plant's receivers, which was always very good, shows no material changes. The dial of the Riga-T-689, the first models of which had no dial, now shows the call letters of stations on the intermediate and long-wave bands. The dials of both models produced by this plant, Riga T-689 and T-755, should be somewhat larger. This would improve the proportions and appearance of the cabinet. The metal cabinet of the T-755 should be finished better.

The appearance of the new Ural radiophonograph is pleasing, especially models where the color of the cabinet, fabric, and dial are identical.

The new radio receiver of the Tallin Radio Plant is unpretentious and beautiful. The cabinet is compact and has good proportions; the dial is large with a convenient slope, although it is not easy to read. Another kind of wood would have been better for the veneering.

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The Minsk, Rekord, and Elektrosignal radios have retained their earlier appearance. From the artistic standpoint, the Elektrosignal loses a great deal because of the heavy dial graduations and the uninteresting slick fabric stretched over the loudspeaker.

Unfortunately, the Leningrad factories have not improved the appearance of their products. The Neva, one of their recent models, has the same unattractive, light yellow, trimming emphasizing the slant of the black baffle, which provoked sharp criticism last year.

In our opinion, the appearance of the new Vostok radio is a failure. The cabinet, with an oval opening, has a dial which attempts to be original, but its four sections of brightly colored glass, only make it difficult to read.

The small three-tube Moskvich attracts buyers by its miniature size and the agreeable color of its cabinet. Its appearance is somewhat spoiled by the small badly printed paper dial, thick pointer, and back cover made of plain cardboard. The ARZ has substantially the same drawbacks. Its dial is larger and etched on glass, but practically the whole area is covered by a picture and only the edge is left for dial readings. The pointer is scarcely visible.

We feel that it would be desirable to fill up the dials of both the ARZ and Moskvich with the names of towns and call-letters from which they can receive transmissions. The back cover of thin white cardboard, which soon warps must be replaced by a more durable material of the same color as the cabinet. The poor finish of the ARZ cabinet must be improved to make it more like that of the Moskvich. Attention to these details would improve the appearance of both receivers and make them more satisfactory to the consumer.

PUT RADIO PARTS BUSINESS IN ORDER

M. Yemel'yanov
A. Domashnev
Moscow

The activities of the Tsentrosoyuz (Central Union of Consumers' Associations) in the village radio trade with which we are familiar, are unsatisfactory.

Frequently, the smaller traders in charge of sales of a wide variety of goods do not select the radio parts they sell either by name or quality and do not know or consider the needs of the consumer. The managers of certain kray and oblast sections of the Tsentrosoyuz do not estimate the demand for radio parts correctly. For example, the semiannual statement of Comrade Kochkin, Deputy President of the Altay Kray Section of Tsentrosoyuz, covering the last quarter of 1949 and the first quarter of 1950, showed the following stock: crystals 1,000, miscellaneous capacitors 100, resistors, 100, volume controls 50, variable capacitors 30, and power transformers, 50. This amount is certainly not excessive for the shops of a whole kray for 6 months.

Responsibility for the shortage of radio parts on shop shelves does not rest entirely on Tsentrosoyuz. Frequently, the sales organizations of the Ministry of the Communications Equipment Industry do not fill even the most modest orders.

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Not one of the special parts and tubes needed by short-wave amateurs is on sale; Tsentrosoyuz does not pay much attention to their needs. The trade network of the Union cannot, in general, satisfy the requirements of the primary organizations of DOSARM (which have a credit account) for the simple reason that all business is done on a cash basis.

Inasmuch as the Tsentrosoyuz has branches of its trade network in villages, it might, if its radio goods sales section were properly organized, be a great aid to the radiofication of kolkhoz villages and facilitate the growth of radio amateur work.

But, first of all, it would be necessary to include in the educational training for tradesmen, courses which would provide some information, however, elementary, on radio technology.

MASS-PRODUCED RECEIVERS

A. Polikarnov,
Moscow

The ARZ and Moskvich mass-produced receivers, intended originally for local and nearby powerful stations, should ensure loud and undistorted reception. But, because of their defects, these receivers do not meet even these primary requirements. Where strong signals are received a voltage of 12-15 volts is developed on load of the diode detector and the DC component of this voltage is applied to the 6A10 and 6B5 tubes through the ARCh (automatic sensitivity control) circuit.

The whole trouble arises from the use of a reflex circuit in the above-mentioned receivers to amplify the intermediate and low frequencies. In other words, the same 6B8 tube is employed for this purpose. Hence, when strong signals are received from the antenna, the grid bias from the ARCh reaches 10 or more volts. As a result, the distortion in the low-frequency amplifier increases, since, in this case, the tube acts as a plate detector. The power output drops abruptly -- to 0.4 or 0.5 watt. The harmonics in such cases are greater than 20 percent.

It is impossible to eliminate or lessen the bias transmitted from the ARCh circuit to the grid of the 6B8 tube because of the formation of parasitic oscillations during loud transmissions. The problem now arises whether it is advisable to use a reflex circuit in ARZ-49 and Moskvich receivers.

Under technical conditions the problem of distortion over the whole receiver passband range has been by-passed. Here, the harmonic factor is specified only for the low-frequency range, starting from the input to the sound pickup, i.e., when the 6B8 tube operates without grid bias. In this case the harmonic factor is actually equal to 6 or 7 percent.

In ordinary circuits, distortion occurs chiefly in the low-frequency range of the receiver. But in the reflex circuit, as stated above, the picture is different. Measurements can be made easily by putting the receiver in operation, that is, applying 50-200 millivolts to the receiver antenna input with 70-80 percent modulation (f equals 400). A harmonic analyzer or even an oscilloscope may be used in making these measurements.

Such technical shortcomings are inadmissible and must be eliminated immediately.

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